

WHAT IS CLAIMED IS:

1. A position sensor comprising a substrate covered by a membrane and a plurality of pressure sensors on the substrate, the membrane comprising at least first and second areas separated by at least one divider, wherein a force applied to the first area causes substantially no response in those of the pressure sensors underlying the second area.
- 10 2. The position sensor according to claim 1, wherein the at least one divider comprises a slot in the membrane.
- 15 3. The position sensor according to claim 1, wherein the at least one divider comprises a region of the membrane attached to the substrate.
4. The position sensor according to claim 1 wherein the membrane has a stiffness which varies with position on the membrane.
- 20 5. The position sensor according to claim 4 wherein the membrane comprises a plurality of first areas wherein the stiffness of the membrane is at least a first stiffness and a second area between two of the plurality of first areas wherein the membrane has a stiffness less than the first stiffness.

6. The position sensor according to claim 4 wherein the membrane comprises a plurality of first areas wherein the stiffness of the membrane does not exceed a first stiffness and a second area between two of the plurality of first areas wherein the membrane has a stiffness at least the first stiffness.  
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7. The position sensor according to claim 1, wherein the substrate comprises a plurality of cavities and the at least one divider comprises at least one portion of the membrane attached to the substrate in a region between two of the plurality of cavities.  
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8. The position sensor according to claim 1, wherein the membrane is separated from the substrate except in at least one region of the membrane wherein the membrane is in contact with the substrate.  
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9. The position sensor according to claim 1, wherein the membrane comprises protrusions, each protrusion positioned to contact a pressure sensor of the plurality of pressure sensors.
- 20 10. The position sensor according to claim 2, wherein the membrane comprises protrusions, each protrusion positioned to contact a pressure sensor of the plurality of pressure sensors.
11. The position sensor according to claim 3, wherein the membrane comprises protrusions, each protrusion positioned to contact a pressure sensor of the plurality of pressure sensors.  
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12. The position sensor according to claim 1 wherein the first and second areas are arranged in a non-regular array.
13. The position sensor according to claim 1 wherein the first and second areas are arranged in a regular array.  
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14. The position sensor according to claim 1, wherein the at least one divider comprises a weakened portion of the membrane.

10 15. A position sensor comprising:  
a substrate;  
a membrane covering the substrate; and,  
pressure sensing means on the substrate;  
wherein the membrane has a stiffness which varies with position.  
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16. A position sensor according to claim 15 wherein a first area of the membrane is isolated from a second, adjacent, area of the membrane such that a force applied to the first area causes substantially no response in a portion of the pressure sensing means underlying the second area.  
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17. A position sensor according to claim 16, comprising a slot located between the first and second areas.

25 18. A position sensor according to claim 16, comprising a recessed region between the first and second areas, the recessed region

being fixedly engaged to the substrate with portions of the membrane displaced from the recessed region being not fixedly engaged to the substrate.

- 5      19. A position sensor according to claim 16, wherein the substrate comprises a plurality of cavities, at least one portion of the membrane is attached to the substrate between the cavities.
- 10     20. A position sensor according to claim 16, wherein the membrane is separated from the substrate except for at least one depressed region in contact with the substrate.
- 15     21. A position sensor according to claim 16, wherein the areas comprise one or more of a rectangular, triangular, truncated triangular or irregular-shaped area.
- 20     22. A position sensor according to in claim 16, wherein the membrane comprises a weakened portion portion between the areas.